REMARKS/ARGUMENTS

In the Office Action mailed June 9, 2009, claims 1-20 were rejected. In response, Applicants hereby request reconsideration of the application in view of the below-provided remarks. No claims are amended, added, or canceled.

Claim Rejections under Nonstatutory Double Patenting

Claims 1-20 were provisionally rejected under the judicially created doctrine of double patenting. Specifically, the Office Action states that claims 1-20 of the present application are functionally equivalent to claims 1-20 of Zhang (U.S. Pat. Pub. No. 2007/0087723, hereinafter Zhang) in view of Reiner (U.S. Pat. Pub. No. 2002/0169009, hereinafter Reiner).

In the absence of any indication of allowable claims, Applicants respectfully reserve the right to submit a terminal disclaimer at a future date once allowable claims are identified. Additionally, Applicants respectfully reserve the right to alternatively traverse the provisional rejection under nonstatutory double patenting.

Claim Rejections under 35 U.S.C. 112, first paragraph

Claims 1-20 were rejected under 35 U.S.C. 112, first paragraph, as purportedly failing to comply with the written description requirement. Specifically, the Office Action states that the Examiner could not find, in the original disclosure, any support for the amended language related to "a single frequency band" of claims 1, 7, and 14.

Applicants respectfully submit that the language related to "a single frequency band" is supported by the specification, even though there may not be explicit antecedent basis for the language. This language is supported by the specification, for example, at least in the subject matter described at page 3, line 20, through page 4, line 10. The cited portion of the specification generally describes a data frame 400 that includes a preamble 402 and a payload 404. Specification, page 3, line 22. A wireless station 300 with a receiver 306 in an RF stage 302 analyzes an incoming signal to determine the presence of a data frame. Specification, page 3, lines 28-30. In some embodiments, the wireless station operates pursuant to the IEEE 802.11 or 802.11b standards. Specification, page 3,

lines 25-26. As a specific example, an incoming signal is transmitted in the 2.4 GHz band under the IEEE 802.11 standard. Specification, page 4, lines 5-6. Alternatively, the wireless station may operate pursuant to the IEEE 802.11a and 802.11g standards for frame detection. Specification, page 3, lines 32-33.

While the specification does not explicitly provide antecedent basis for the exact language used in the claims, Applicants respectfully submit that the indicated language finds considerable support in the specification, including the support described above. In particular, the description of known IEEE 802.11x standards provides support for the implementation of a data frame with a preamble and a payload within a single frequency band, as recited in the claim, even though the indicated subject matter from the specification of the present application does not explicitly refer to a single frequency band.

Here, although the language of the claims differs somewhat from the actual nomenclature provided in the specification, Applicants respectfully submit that the claim language is nevertheless supported by the specification because the claims recite limitations that are well within the scope of the embodiments described in the specification. Moreover, although the MPEP indicates that the use of a variety of terms can be confusing, Applicants respectfully submit that the terms used in the claims do not cause such confusion. On the contrary, the language of the claims is ascertainable from the specification, as shown by the explanation provided above.

Therefore, Applicants assert the claims are supported by the specification as filed because the language is within the scope of the written description provided in the specification, and the language does not cause confusion as to the meaning of the claims. Accordingly, Applicants respectfully request that the rejections of claims 1-20 under 35 U.S.C. 112, first paragraph, be withdrawn.

Claim Rejections under 35 U.S.C. 102 and 103

Claims 1, 2, 7-9, and 14-16 were rejected under 35 U.S.C. 102(e) as being anticipated by Reiner (U.S. Pat. Pub. No. 2002/0169009, hereinafter Reiner). Additionally, claims 3, 10, and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Reiner in view of Femenias (U.S. Pat. No. 3,623,097, hereinafter

Femenias) and Challa et al. (U.S. Pat. Pub. No. 2003/00112856, hereinafter Challa). Additionally, claims 4, 11, and 18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Reiner in view of Mellon (U.S. Pat. No. 4,897,659, hereinafter Mellon) and Herrmann et al. (U.S. Pat. Pub. No. 2001/0055275, hereinafter Herrmann). Additionally, claims 5, 12, and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Reiner in view of Thomas et al. (U.S. Pat. No. 5,818,822, hereinafter Thomas). Additionally, claims 13 and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Reiner in view of Schmidl et al. (U.S. Pat. No. 5,732,113, hereinafter Schmidl). However, Applicants respectfully submit that these claims are patentable over Reiner, Femenias, Challa, Mellon, Herrmann, Thomas, and Schmidl for the reasons provided below.

Independent Claim 1

Applicants respectfully submit that claim 1 is patentable over Reiner because Reiner does not disclose all of the limitations of the claim. Claim 1 recites:

> A RF stage in a wireless station comprising:
> a detector for detecting a sequence in an incoming signal received by the wireless station and for generating an activation signal in response to detecting the sequence in the incoming signal;
> wherein the incoming signal comprises a data frame with a preamble and a payload within a single frequency band, and the detector is configured to detect the sequence within the preamble of the data frame.
> (Emphasis added.)

In contrast, Reiner does not disclose all of the limitations of the claim. In particular, Reiner does not disclose a data frame with a preamble and a payload within a single frequency band, as recited in the claim.

As explained in Applicants' previous response, Reiner merely describes a system (Fig. 1) which uses a signal carrying information in a number of modulated frequency bands, which are designated as Fg and Fa. Reiner, Fig. 1; paragraph 47. The first frequency band (Fg) is used to communicate basic information (g) such as speech information that is modulated onto an RF carrier frequency. Reiner, paragraph 40, lines

5-9. The second frequency band (Fa) contains wake-up information (a) that is used to switch a receiver from a standby mode to an operating mode, in which the basic information (b) can be received and processed. Reiner, paragraph 40, lines 9-13. In other words, the wake-up information and the basic information are transmitted in separate frequency bands. As a specific example, Reiner states that the frequency band (Fg) for the basic information (g) may range from 869.7 MHz to 870.0 MHz. Reiner, paragraph 20. In contrast, the frequency band (Fa) for the wake-up information (a) may range from 869.4 MHz to 869.65 MHz. Reiner, paragraph 28. From this example, it can be understood that the separate frequency ranges (Fg and Fa) do not overlap and, therefore, do not use a single frequency band for both basic information and wake-up information.

Furthermore, Reiner enumerates several advantages of using separate frequency bands for the basic information (g) and the wake-up information (a). These advantages include continuous data interchange, less complicated validity testing, and less power consumption. Reiner, paragraph 14. Therefore, Reiner does not disclose a data frame with a preamble (including the sequence) and a payload within a single frequency band because Reiner requires that the basic information and the wake-up information are transmitted in separate frequency bands.

In further support of the rejection, the present Office Action state:

> The term "frequency band", as known in the art, refers to a group of frequencies (i.e. frequency channels with certain bandwidth and non-overlapping center frequencies) on the frequency spectrum. Therefore merely reciting "*within a single frequency band*" does not suggesting that the wake-up information and basic information locates on the same or overlapping frequency channels as implied by the Applicant's remarks. Furthermore, a frequency band can be further divided into sub-bands. Therefore, Reiner discloses a single frequency band (e.g. 869.4 MHz to 870.0 MHz) with two sub bands (e.g., 869.4 MHz to 869.65 MHz and 869.7 to 870.0).
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> Office Action, 6/9/09, page 19 (emphasis added).

While the Examiner proposes a general description of the term "frequency band," Applicants note that the Examiner's proposed description is not necessarily applicable, in all instances. In particular, the Examiner's proposed description does not apply in the

present case because the Examiner attempts to redefine the separate frequency bands described in Reiner as merely sub-bands of a single frequency band. However, Reiner specifically describes that two separate frequency bands are used for the wake-up information and the basic information.

In fact, Reiner explains that the first frequency band carrying the basic information is a standardized frequency band for transmitting at a transmission power level of up to 5 mW in a band range from 869.7 MHz to 870.0 MHz. Reiner, paragraph 29. Also, the second frequency band carrying the wake-up information is a standardized frequency band in a band range from 869.4 MHz to 869.65 MHz. Reiner, paragraph 28. Hence, Reiner expressly recognizes that the first and second frequency bands are separate frequency bands according to known standards. Moreover, according to the applicable standards, each of the identified frequency bands within the band ranges has distinct transmission power restrictions. And the fact that the band ranges may be near one another does not negate the fact that the first and second frequency bands nevertheless are separate frequency bands. Therefore, Reiner does not disclose a single frequency band for both the wake-up information and the basic information.

Additionally, it should be noted that the separate frequency bands are necessary in order for the system of Reiner to function properly. Specifically, the system includes a filter unit that separates the frequency band (i.e., the second frequency band) for the wake-up information from the signal (i.e., the first frequency band) carrying the information, and the filter supplies the separated frequency band to a passive demodulation unit for demodulating the wake-up information. Reiner, paragraphs 15 and 42; Fig. 1, filter unit 2. The fact that the filter unit operates to separate the wake-up frequency band from the basic information frequency band reinforces the understanding that the first and second frequency bands are separate frequency bands, rather than sub-bands of the same frequency band. Therefore, Reiner does not disclose a single frequency band for both the wake-up information and the basic information.

For the reasons presented above, Reiner does not disclose all of the limitations of the claim because Reiner does not disclose a data frame with a preamble and a payload within a single frequency band, as recited in the claim. Accordingly, Applicants

respectfully assert claim 1 is patentable over Reiner because Reiner does not disclose all of the limitations of the claim.

Independent Claims 7 and 14

Applicants respectfully assert independent claims 7 and 14 are patentable over the proposed combinations of cited references at least for similar reasons to those stated above in regard to the rejection of independent claim 1. Each of these claims recites subject matter which is similar to the subject matter of claim 1 discussed above. Although the language of these claims differs from the language of claim 1, and the scope of these claims should be interpreted independently of other claims, Applicants respectfully assert that the remarks provided above in regard to the rejection of claim 1 also apply to the rejections of these claims.

Dependent Claims

Claims 2-6, 8-13, and 15-20 depend from and incorporate all of the limitations of the corresponding independent claims 1, 7, and 14. Applicants respectfully assert claims 2-6, 8-13, and 15-20 are allowable based on allowable base claims. Additionally, each of claims 2-6, 8-13, and 15-20 may be allowable for further reasons.

CONCLUSION

Applicants respectfully request reconsideration of the claims in view of the remarks made herein. A notice of allowance is earnestly solicited.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-4019** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-4019** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Respectfully submitted,

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Date: August 10, 2009

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